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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/421,818 10/20/99 WANG

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EXAMINER

VO, H

ART UNIT

PAPER NUMBER

1771

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05/11/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

<b>Office Action Summary</b>	Application No. 09/421,818	Applicant(s) WANG ET AL.	
	Examiner Hai Vo	Art Unit 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 October 1999.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) 21-42 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

**Attachment(s)**

- |   |  |
|---|--|
| 15) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                  | 18) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 16) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                         | 19) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 17) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2</u> . | 20) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-20, drawn to a porous, breathable film, classified in class 428, subclass 304.4.
  - II. Claims 21-42, drawn to a method of making a water-soluble, breathable film, classified in class 426, subclass 45.1.
2. Inventions II and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, the product as claimed can be made by a molding or casting method instead of an extrusion method.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Theodore M. Green on 05/02/01 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-20. Affirmation of this election must be made by applicant in replying to this Office action. Claims 21-42 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 2, 7,8, 11-17 are rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Andersen et al. (US 5,508,072). Andersen discloses a breathable sheet comprising a water dispersible polymer and an inorganic aggregate in an amount of from 40% to 98% by volume of the total solids. See column 30, lines 32-34. Andersen discloses addition of clay to the paper with inorganic materials is to increase the breathability of the product. See column 5, lines 54-56. Andersen discloses a water dispersible organic binder being ethylene oxide polymer or polyacrylic acid or polyacrylic acid salt. See column 24, lines 34-39. Andersen discloses an inorganic aggregate being calcium carbonate. See column 11-16. The amount of CaCO<sub>3</sub> ranging from 20 % to 35% by volume of the total

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solids. See column 5, lines 50-53. The amount of inorganic aggregate overlaps with the presently claimed range. Therefore, it is the examiner's position that Andersen anticipated the claimed subject matter. Alternatively, for non-overlapping part of the ranges, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have altered the amount of the inorganic aggregate, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In the present case, it would have been obvious to the skilled artisan to have optimized the amount of the inorganic aggregate motivated by the desire to control degree of water vapor permeability of the film, and further control degree of degradation of the film in water. Andersen is silent as to an elongation of the sheet; however, Andersen is using the same materials to form a sheet as the applicant. It is the examiner's position that the sheet of Andersen exhibits substantially identical properties as the film of present invention. In addition, the presently claimed elongation property would obviously have been provided. Note *In re Best* 195 USPQ at 433, footnote 4 (CCPA 1977) as to the providing of this rejection under 35 USC 103 in addition to the rejection made under 35 USC 102. Andersen either anticipated or strongly suggested the claimed subject matter.

With regard to claims 12-13, Examples 1-6 show that the sheets having thicknesses of 0.23 mm, 0.38 mm, and 0.5 mm. See column 62, lines 12-13. Andersen also discloses the sheet can be as thin as about 0.01 mm. See column 19, lines 47-48.

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With regard to claims 15-17, Andersen discloses when calcium carbonate particles having an average diameter smaller than 2 microns; the sheet has a glossy surface.

See column 62, lines 56-60.

8. Claims 1, 2, 5-11, 14-20 are rejected under 35 U.S.C. 102(e) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Topolkaraev et al. (US 6,117,438). Topolkaraev discloses a microlayer polymer film including a plurality of degradable layers comprising the water degradable polyethylene oxide (PEO) (see abstract) and the filler in an amount ranging from 0.5 % to about 70% (column 8, lines 26-28). The amount of the filler overlaps with the presently claimed ranges. Topolkaraev discloses the microlayer polymer film exhibits a percent elongation-at-break in machine direction of at least about 150 %. See column 28, lines 10-12. Therefore, it is the examiner's position that Topolkaraev anticipated the claimed subject matter. Alternatively, for non-overlapping part of the ranges, It would have been obvious to one having ordinary skill in the art at the time the invention was made to have altered the amount of the filler, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. It would have been obvious to the skilled artisan to have optimized the amount of the filler motivated by the desire to control degree of water vapor permeability of the film, and further control degree of degradation of the film in water. Topolkaraev either anticipated or strongly suggested the claimed subject matter.

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With regard to claims 5 and 6, Topolkaraev discloses PEO having molecular weight ranging from about 1000,000 to 8,000,000. Topolkaraev also discloses PEOs used in his invention having molecular weights equal to 200,000; 300,000; 400,000; and 1,000,000. See column 5, lines 51-67.

With regard to claims 9-10, Topolkaraev discloses the filler comprising calcium carbonate (column 7, line 67) with surface coating material having a hydrophile-lipophile balance (HLB) number from about 6 to about 18.

With regard to claims 15-18, Topolkaraev teaches all limitations as recited within these claims. See column 8, lines 28-32.

With regard to claims 19 and 20, Topolkaraev discloses the microlayer polymer film being useful in making disposable personal care items such as diapers, a feminine pad, a pantliner or training pants. See column 1, lines 11-21.

9. Claims 3-6, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andersen et al. (US 5,508,072) in view of Wang et al. (US 6,172,177). Andersen is silent as to the amount of grafted polar vinyl monomer in modified PEO. Wang teaches in analogous art the amount of the monomer relative to the amount of PEO ranging from 0.1 to 20 % by weight of monomer to the weight of PEO. See column 6, lines 24-26. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have altered the amount of the monomer, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In *re Aller*, 105 USPQ 233. It would have been obvious to the

skilled artisan to have optimized the amount of the monomer, motivated by the desire to improve sufficient processability of the PEO and further reduce the production cost of the film.

With regard to claims 5, 6, Andersen is silent as to molecular weight of the poly(ethylene oxide). Wang teaches in analogous art, poly(ethylene oxide) having a molecular weight ranging from 300,000 g/mol to 8,000,000 g/mol. See column 5, lines 14-16. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have altered molecular weight range of poly(ethylene oxide), since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In *re Aller*, 105 USPQ 233. It would have been obvious to the skilled artisan to have optimized the molecular weight range of poly(ethylene oxide) motivated by the desire to control mechanical and processing properties of the poly(ethylene oxide).

With regard to claims 19, 20, Andersen is silent as to a flushable article. Wang discloses the modified PEO being useful for liners in personal care products such as diapers, tampons, pantliners, etc. See column 4, lines 20-23. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used Andersen sheet as a covering material for disposable items such as flushable diapers, motivated by the desire to dispose of such products in sewage system due to increasing concerns about limited landfill space and air quality.

10. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Andersen et al. (US 5,508,072). Andersen does not specially disclose the filler having



an average particle size that does not exceed about 1 micron. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have altered the average particle size of the filler, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In *re Aller*, 105 USPQ 233. It would have been obvious to the skilled artisan to have optimized the average particle size of the filler, motivated by the desire to control porosity of the sheet.

11. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as patentable over Topolkaraev et al. (US 6,117,438) in view of Wang et al. (US 6,172,177). Topolkaraev is silent as to the amount of grafted polar vinyl monomer in modified PEO. Wang teaches in analogous art the amount of the monomer relative to the amount of PEO ranging from 0.1 to 20 % by weight of monomer to the weight of PEO. See column 6, lines 24-26. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have altered the amount of the monomer, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In *re Aller*, 105 USPQ 233. It would have been obvious to the skilled artisan to have optimized the amount of the monomer, motivated by the desire to improve sufficient processability of the PEO and further to reduce the production cost of the film.

12. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as patentable over Topolkaraev et al. (US 6,117,438). Topolkaraev discloses each microlayer having a thickness ranging from 10 to 50 microns. See column 2, lines 47-48. Microlayer film has

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a total of 120 degradable layers. See column 2, lines 56-57. According to the calculation, the film will have the thickness in the range of 1.2 mm to 6 mm. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have altered range of the film thickness, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In *re Aller*, 105 USPQ 233. It would have been obvious to the skilled artisan to have optimized range of the film thickness motivated by the desire to control the adherence of one layer to another.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (703) 605-4426.

The examiner can normally be reached on Monday to Friday, 8:30 to 5:00 (EAST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (703) 308-1261. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3599 for regular communications and (703) 305-7718 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3601.

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HV

May 10, 2001

  
BLAINE COPENHEAVER  
PRIMARY EXAMINER